

Remarks/Arguments:

Claims 1 and 6 have been amended. Claims 11-14 have been added. No new matter is introduced herein. Claims 1-14 are pending.

Claim 1 has been amended to include a step of positioning the air blowing means above a surface of the plasma display panel to direct air to the surface in a direction away from parallel relative to the surface. No new matter is introduced herein. Support for the amendment can be found, for example, at page 6, lines 5-15, Fig. 1 and Fig 2 of the subject specification. In addition, claims 1 and 6 have been amended to clarify that the air blowing means is positioned above a front-face surface of the plasma display panel. Support for the amendment can be found, for example, at page 2, lines 1-14 and Figs. 2 and 8 of the subject specification.

Claims 1-10 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Shinji et al. (JP 11-213891) in view of Oono (JP 3-75596) and Kazuya et al. (JP 07-162180). Reconsideration is respectfully requested for at least the reasons set forth below.

Claim 1, as amended, includes features neither disclosed nor suggested by the cited art, namely:

... positioning the air blowing means above a front-face surface of the plasma display panel to direct air to the front-face surface in a direction away from parallel relative to the front-face surface ...

cooling the plasma display panel during the aging while changing at least one of the direction or amount of air blown from the air blowing means with time.
(Emphasis Added)

Claim 6 includes a similar recitation.

Shinji et al. disclose, in Fig. 2, an aging room 2 for aging panels that is applied to tray 11 (paragraph [0015] of the machine translation). At paragraph [0023], Shinji et al. disclose including a fan in aging room 2 for cooling aging room 2 during the aging period. At paragraph [0028], Shinji et al. disclose that tray 11 is equipped with a fan for cooling circuit board 18.

As acknowledged by the Examiner on page 3 of the Office Action, Shinji et al. do not disclose or suggest: 1) positioning air blowing means above a surface of the plasma display panel to direct air to the surface in a direction away from parallel relative to the surface and 2) cooling the plasma display panel during the aging while changing at least one of the direction or amount of air blown from the air blowing means with time, as required by claim 1. Thus, Shinji et al. cannot further teach that the air blowing means is positioned above a front-face surface of the plasma display panel, as required by claim 1. Accordingly, Shinji et al. do not include all of the features of claim 1.

Oono discloses, in Figs. 1 and 2, a cooling structure of a circuit board including fan 6 positioned below the edge of circuit board 3 and air flow guide 2 for "variably controlling" the blown density of air provided to circuit board 3 (Claims and Description of Numerals and Signs of Main Parts).

Oono, however, does not disclose or suggest positioning the air blowing means above a front-face surface of the plasma display panel to direct air to the front-face surface in a direction away from parallel relative to the front-face surface, as required by claim 1 (emphasis added). Instead, Oono discloses that fan 6 is positioned below circuit board 3 and air flow guide 2, for redirecting the blown density of air provided to circuit board 3 (Figs. 1 and 2). Because fan 6 is positioned below circuit board 3, the air is directed parallel to the surface of the circuit board. In other words, air is directed to an edge of circuit board 3, not to a front-face surface, as required by claim 1.

In addition, as acknowledged by the Examiner on page 3 of the Office Action, Oono does not disclose or suggest changing, during the aging, at least one of the direction or amount of air blown from the air blowing means with time, as required by claim 1. Instead, Oono discloses that the direction of the air flow guide 2 is fixed, as shown in Figs. 3 and 4. Thus, Oono does not make up for the deficiencies of Shinji et al. with respect to claim 1.

Kazuya et al. disclose, in Figs. 1-3, a cooling structure for uniformly cooling a plurality of printed boards 15 that are stored in parallel with each other in bin 11. The cooling structure includes fan device 50 mounted below the edges of printed boards

15. Fan device 50 includes a plurality of fan units 5 and a shaft 31 for pivoting fan device 50. (Abstract and [0033] of a machine translation).

Kazuya et al., however, do not disclose or suggest positioning the air blowing means above a front-face surface of a plasma display panel to direct air to the front-face surface in a direction away from parallel relative to the front-face surface, as required by claim 1 (emphasis added). Instead, Kazuya et al. teach that fan device 50 directs air parallel to the surface of printed boards 15. Even though fan device 50 pivots, air is still directed toward an edge of board 15 (Drawing 5), not to a front-face surface, as required by claim 1. Thus, Kazuya et al. do not make up for the deficiencies of Shinji et al. and Oono with respect to claim 1.

At [09], page 3 of the Office Action, it is asserted that "optimizing the direction of air flow towards the surface of the PDP is a matter of routine optimization." Applicants respectfully disagree. Applicants note that if the fan(s) of Oono or Kazuya et al. were positioned above a front-face surface of the circuit boards to direct air in a direction away from parallel, the fan(s) would be rendered inoperable for their intended use. Applicants respectfully note that when combining references to support an obviousness rejection, "the claimed combination can not change the principal of operation of the primary reference or render the reference inoperable for its intended purpose." (MPEP Sections 2143.01 (V)-(VI)). Accordingly, the proposed modification of fan 6 (Oono) and fan device 50 (Kazuya et al.) would defeat the purpose of fan 6 and fan device 50 to blow air to multiple circuit boards. Thus, the combination of Shinji et al., Oono and Kazuya et al. are improper. Accordingly, allowance of claim 1 is respectfully requested.

Claim 6, although not identical to claim 1, includes features similar to claim 1 which are neither disclosed or suggested by the cited art. Accordingly, allowance of claim 6 is respectfully requested for at least the same reasons as claim 1.

Claims 2-5 and 7-10 include all of the features of respective claims 1 and 6 from which they depend. Accordingly, claims 2-5 and 7-10 are also patentable over the cited art for at least the reasons set forth above.

Claims 11-14 have been added. Claims 11 and 14 recite that the air blowing means changes the direction of air from a first direction to at least a second direction.


Application No.: 10/552,396
Amendment Dated: November 18, 2009
Reply to Advisory Action of: October 23, 2009

MAT-8725US

Claims 12 and 14 recite that the air blowing means changes the amount of air blown by at least one additional amount. No new matter is introduced herein. Support for claims 11-14 can be found, for example, at page 9, lines 5-25; page 14, lines 1-9; and page 15, lines 11-18 of the original specification. Claims 11-14 include all of the features of respective claims 1 and 6 from which they depend and are patentable over the cited art for at least the same reasons as respective claims 1 and 6.

In view of the amendments and arguments set forth above, the above-identified application is in condition for allowance, which action is respectfully requested.

Respectfully submitted,



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Dated: November 18, 2009

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FP_577938